utilizing sensors of the present invention include, but are not limited to, saccharides, amino saccharides, and carbonyl saccharides.

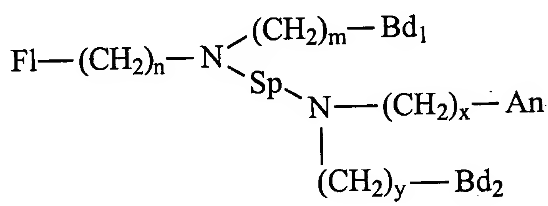
IN THE CLAIMS:

Please replace the text of claim 33 with the following text:

33. (Amended) A method of labeling solid substrates, comprising:

(a) providing a solid substrate;

(b) providing the modular fluorescence sensor [of claim 1,] having the following general formula:



wherein:

Fl is a fluorophore;

N is a nitrogen atom;

B_{d1} and B_{d2} are independently selected binding groups, wherein the binding groups are capable of binding an analyte molecule to form a stable 1:1 complex;

Sp is an aliphatic spacer;

n, m, x, and y are integers, where n = 1 or 2, m = 1 or 2, and y =1 or 2; and

An is an anchor group capable of being attached to the solid substrate;

(c) reacting the sensor with the solid substrate under a condition sufficient to attach the sensor to the substrate.

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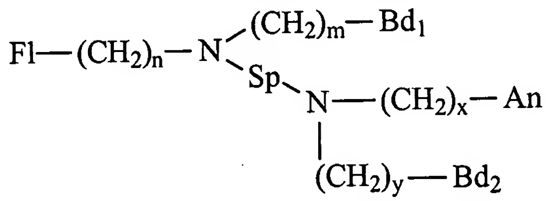
33. (Amended) A method of labeling solid substrates, comprising:

(a) providing a solid substrate;

(b) providing the modular fluorescence sensor having the following general formula:



B3

wherein:

Fl is a fluorophore;

N is a nitrogen atom;

B_{d1} and B_{d2} are independently selected binding groups, wherein the binding groups are capable of binding an analyte molecule to form a stable 1:1 complex;

Sp is an aliphatic spacer;

n, m, x, and y are integers, where n = 1 or 2, m = 1 or 2, and y =1 or 2; and *An* is an anchor group capable of being attached to the solid substrate;

(c) reacting the sensor with the solid substrate under a condition sufficient to attach the sensor to the substrate.

Please add new claims 40-60 as follows:

40. (New). A method for detecting an analyte contained in a sample comprising the steps of:

(a) providing a modular fluorescence sensor having the following general formula:

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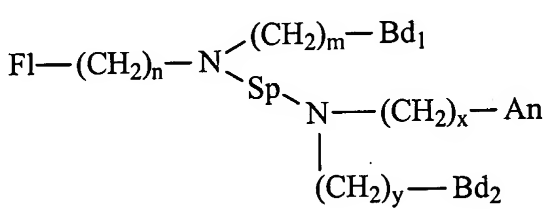


wherein:

Fl is a fluorophore;

N is a nitrogen atom;

B_{d1} and B_{d2} are independently selected binding groups, wherein the binding groups are capable of binding the analyte molecule to form a stable 1:1 complex;

Sp is an aliphatic spacer;

An is an anchor group for attaching the sensor to a solid substrate; and

n, m, x, and y are integers, where n = 1 or 2, m = 1 or 2, and y =1 or 2;

(b) contacting the sensor with the sample whereby the sensor binds the analyte and generates a detectable analyte signal that is responsive to the analyte concentration in the sample;

(c) detecting the generated analyte signal; and

(d) determining the concentration of the analyte contained in the sample.

B4

41. (New) The method of claim 40, wherein the analyte is selected from the group consisting of saccharides, amino saccharides, and carbonyl saccharides.

42. (New) The method of claim 41, wherein the Sp comprises six carbon atoms and the analyte is glucose.

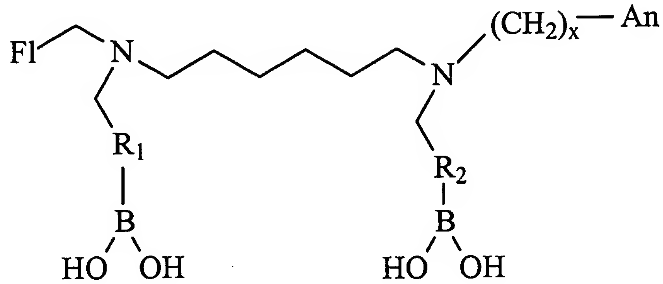
43. (New) The method of claim 40, wherein Fl is selected from the group consisting of naphtyl, anthryl, pyrenyl, phenanthryl, and perylene.

44. (New) The method of claim 40, wherein B_{d1} is R_1-$B(OH)_2$ and B_{d2} is R_2-$B(OH)_2$, wherein R_1 and R_2 are aliphatic or aromatic functional groups selected independently from each other and B is a boron atom.

45. (New) The method of claim 44, wherein R_1 and R_2 selected from the group consisting of: methyl, ethyl, propyl, butyl, phenyl, methoxy, ethoxy, butoxy, and phenoxy groups.

46. (New) The method of claim 40, wherein An comprises methyl or phenyl.

47. (New) The method of claim 40, wherein the modular fluorescence sensor has the following general formula:



wherein:

B is a boron atom; and

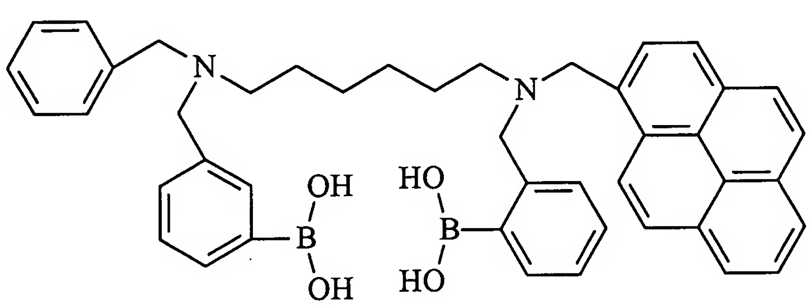
R_1 and R_2 are aliphatic or aromatic functional groups which allow covalent binding of an analyte to the hydroxyl groups forming a stable 1:1 complex, wherein R_1 and R_2 are selected independently from each other.

48. (New) The method of claim 47, wherein Fl is selected from the group consisting of naphtyl, anthryl, pyrenyl, phenanthryl, and perylene.

49. (New) The sensor of claim 47, wherein R_1 and R_2 are independently selected from the group consisting of: methyl, ethyl, propyl, butyl, phenyl, methoxy, ethoxy, butoxy, and phenoxy groups.

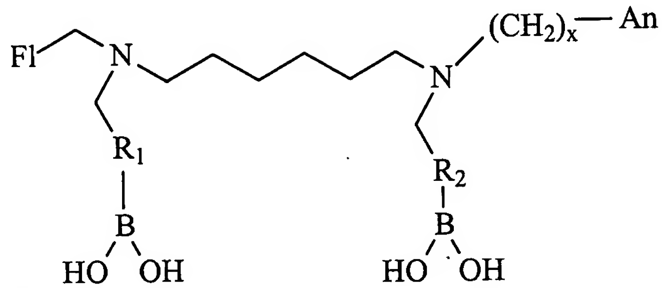
50. (New) The method of claim 47, wherein the analyte is glucose.

51. (New) The method of claim 40, wherein the analyte is glucose and the modular fluorescence sensor has the following general formula:



52. (New) A method for detecting glucose contained in a sample comprising the steps of:

(a) providing a modular fluorescence sensor having the following general formula:



wherein:

Fl is a fluorophore;

N is a nitrogen atom;

B is a boron atom;

R_1 and R_2 are aliphatic or aromatic functional groups which allow covalent binding of an analyte to the hydroxyl groups forming a stable 1:1 complex, wherein R_1 and R_2 are selected independently from each other;

An is an anchor group for attaching the sensor to a solid substrate; and

x is an integer.

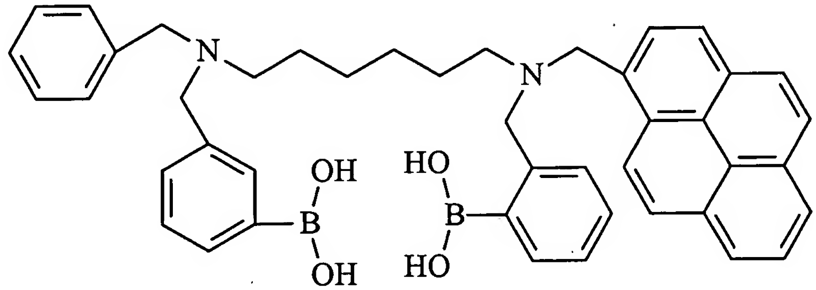
(b) contacting the sensor with the sample whereby the sensor binds the analyte and generates a detectable analyte signal that is responsive to the analyte concentration in the sample;

(c) detecting the generated analyte signal; and

(d) determining the concentration of the analyte contained in the sample.

B4

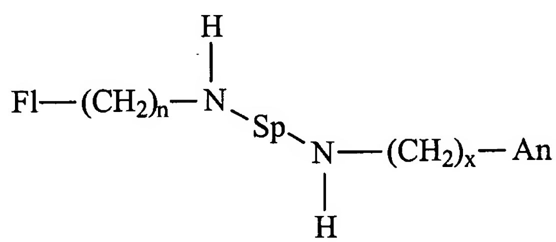
53. (New) The method of claim 52, wherein the analyte is glucose and the modular fluorescence sensor has the following formula:



B4

54. (New) A method for detecting an analyte contained in a sample comprising the steps of:

(a) forming an asymmetric compound of the following general formula:



wherein:

Fl is a fluorophore;

N is a nitrogen atom and H is a hydrogen atom;

Sp is an aliphatic spacer;

An is an anchor group for attaching the sensor to a solid substrate; and

n = 1 or 2, and x is any integer; and

(b) replacing hydrogen atoms with B_{d1} and B_{d2} groups to form a modular fluorescence sensor, wherein B_{d1} and B_{d2} are independently selected binding groups capable of binding an analyte molecule to form a stable 1:1 complex.

(c) contacting the sensor with the sample whereby the sensor binds the analyte and generates a detectable analyte signal that is responsive to the analyte concentration in the sample;

(d) detecting the generated analyte signal; and

(e) determining the concentration of the analyte contained in the sample.

PTO CLAIMS/TJ

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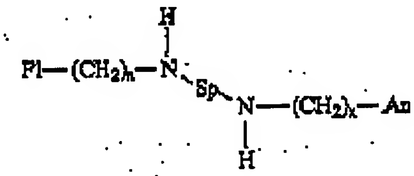
Please cancel claims 1-21 without prejudice.

22. A method of synthesizing a modular fluorescence sensor comprising the steps of:

(a) forming an asymmetric compound of the following general formula:



wherein:

Fl is a fluorophore;

N is a nitrogen atom and H is a hydrogen atom;

Sp is an aliphatic spacer;

An is an anchor group for attaching the sensor to a solid substrate; and

$n = 1$ or 2, and x is any integer; and

(b) replacing hydrogen atoms with B_{d1} and B_{d2} groups, wherein B_{d1} and B_{d2} are independently selected binding groups capable of binding an analyte molecule to form a stable 1:1 complex.

23. The method of claim 22, wherein Fl is selected from the group consisting of naphtyl, anthryl, pyrenyl, phenanthryl, and perylenyl.

24. The method of claim 22, wherein B_{d1} is R_1-$B(OH)_2$ and B_{d2} is R_2-$B(OH)_2$, wherein R_1 and R_2 are aliphatic or aromatic functional groups selected independently from each other, and B is a boron atom.

25. The method of claim 24, wherein R_1 and R_2 selected from the group consisting of: methyl, ethyl, propyl, butyl, phenyl, methoxy, ethoxy, butoxy, and phenoxy groups.

26. The method of claim 24, wherein the step of replacing of hydrogen atoms comprises adding orthobromomethyl phenylboronic acid.

27. The method of claim 22, wherein Sp is a straight-chain alkane.

28. The method of claim 27, wherein the straight-chain alkane comprises 9 carbon atoms.

29. The method of claim 28, wherein the straight-chain alkane comprises 6 carbon atoms.

30. The method of claim 22, wherein *An* comprises an organic functionality.

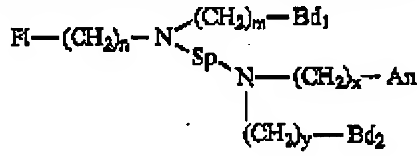
31. The method of claim 22, wherein *An* comprises methyl.

32. The method of claim 22, wherein *An* comprises phenyl.

33. (Amended) A method f labeling solid substrates, comprising:

(a) providing a solid substrate;

(b) providing the modular fluorescence sensor having the following general formula:



wherein:

Fl is a fluorophore;

N is a nitrogen atom;

B_{d1} and B_{d2} are independently selected binding groups, wherein the binding groups are capable of binding an analyte molecule to form a stable 1:1 complex;

Sp is an aliphatic spacer;

n, m, x, and y are integers, where n = 1 or 2, m = 1 or 2, and y =1 or 2; and *An* is an anchor group capable of being attached to the solid substrate;

(c) reacting the sensor with the solid substrate under a condition sufficient to attach the sensor to the substrate.

34. The method of claim 33, wherein the solid substrate is a micro particle.

35. The method of claim 34, wherein the diameter of the particle is from 0.1 to 20 micrometers.

36. The method of claim 34, wherein the particle is a porous particle, and wherein the sensor is bound to the inside of the pores of the particle.

37. The method of claim 34, wherein the particle is a hydrophobic insoluble particle, and wherein the sensor is coupled to the surface of the particle.

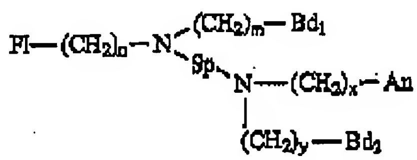
38. The method of claim 34, wherein the particle is made from a material selected from a group consisting of polystyrene latex, plasticized polyvinyl chloride, glass, a semipermeable membrane, and a bio-resorbable polymer.

39. The method of claim 38, wherein the bio-resorbable polymer is selected from a group consisting of polyglycolic acid (PGA), poly-DL-lactide-co-glycolide (PLGA), starch, and gelatin.

Please add new claims 40-60 as follows:

40. (New). A method for detecting an analyte contained in a sample comprising the steps of:

(a) providing a modular fluorescence sensor having the following general formula:



wherein:

Fl is a fluorophore;

N is a nitrogen atom;

B_{d1} and B_{d2} are independently selected binding groups, wherein the binding groups are capable of binding the analyte molecule to form a stable 1:1 complex;

Sp is an aliphatic spacer;

An is an anchor group for attaching the sensor to a solid substrate; and

n, m, x, and y are integers, where n = 1 or 2, m = 1 or 2, and y =1 or 2;

(b) contacting the sensor with the sample whereby the sensor binds the analyte and generates a detectable analyte signal that is responsive to the analyte concentration in the sample;

(c) detecting the generated analyte signal; and

(d) determining the concentration of the analyte contained in the sample.

41. (New) The method of claim 40, wherein the analyte is selected from the group consisting of saccharides, amino saccharides, and carbonyl saccharides.

42. (New) The method of claim 41, wherein the Sp comprises six carbon atoms and the analyte is glucose.

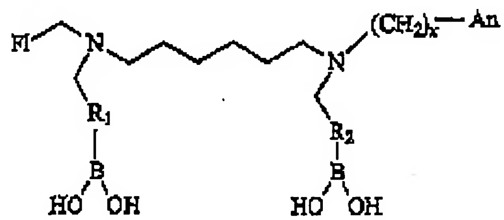
43. (New) The method of claim 40, wherein Fl is selected from the group consisting of naphtyl, anthryl, pyrenyl, phenanthryl, and perylene.

44. (New) The method of claim 40, wherein B_{d1} is R_1-$B(OH)_2$ and B_{d2} is R_2-$B(OH)_2$, wherein R_1 and R_2 are aliphatic or aromatic functional groups selected independently from each other and B is a boron atom.

45. (New) The method of claim 44, wherein R_1 and R_2 selected from the group consisting of: methyl, ethyl, propyl, butyl, phenyl, methoxy, ethoxy, butoxy, and phenoxy groups.

46. (New) The method of claim 40, wherein An comprises methyl or phenyl.

47. (New) The method of claim 40, wherein the modular fluorescence sensor has the following general formula:



wherein:

B is a boron atom; and

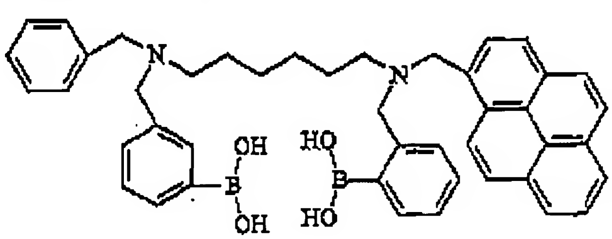
R_1 and R_2 are aliphatic or aromatic functional groups which allow covalent binding of an analyte to the hydroxyl groups forming a stable 1:1 complex, wherein R_1 and R_2 are selected independently from each other.

48. (New) The method of claim 47, wherein Fl is selected from the group consisting of naphtyl, anthryl, pyrenyl, phenanthryl, and perylene.

49. (New) The sensor of claim 47, wherein R_1 and R_2 are independently selected from the group consisting of: methyl, ethyl, propyl, butyl, phenyl, methoxy, ethoxy, butoxy, and phenoxy groups.

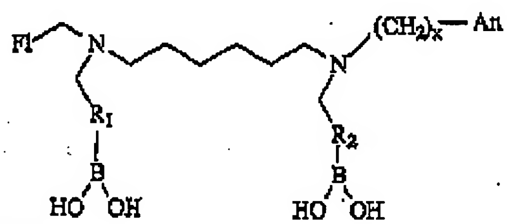
50: (New) The method of claim 47, wherein the analyte is glucose.

51. (New) The method of claim 40, wherein the analyte is glucose and the modular fluorescence sensor has the following general formula:



52. (New) A method for detecting glucose contained in a sample comprising the steps of:

(a) providing a modular fluorescence sensor having the following general formula:



wherein:

Fl is a fluorophore;

N is a nitrogen atom;

B is a boron atom;

R_1 and R_2 are aliphatic or aromatic functional groups which allow covalent binding of an analyte to the hydroxyl groups forming a stable 1:1 complex, wherein R_1 and R_2 are selected independently from each other;

An is an anchor group for attaching the sensor to a solid substrate; and

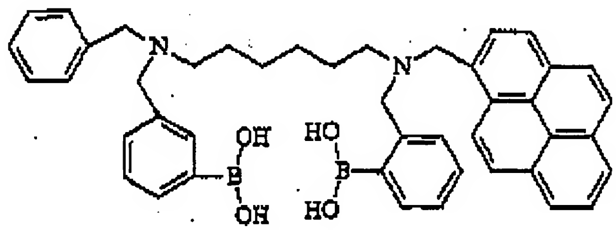
x is an integer.

(b) contacting the sensor with the sample whereby the sensor binds the analyte and generates a detectable analyte signal that is responsive to the analyte concentration in the sample;

(c) detecting the generated analyte signal; and

(d) determining the concentration of the analyte contained in the sample.

53. (New) The method of claim 52, wherein the analyte is glucose and the modular fluorescence sensor has the following formula:



54. (New) A method for detecting an analyte contained in a sample comprising the steps of:

(a) forming an asymmetric compound of the following general formula:

$$\mathrm{Fl}-(\mathrm{CH_2})_n-\overset{\displaystyle \mathrm{H}}{\overset{|}{\mathrm{N}}}\!\!\diagdown_{\mathrm{Sp}}\!\diagdown\underset{\underset{\displaystyle \mathrm{H}}{|}}{\mathrm{N}}-(\mathrm{CH_2})_x-\mathrm{An}$$

wherein:

Fl is a fluorophore;

N is a nitrogen atom and H is a hydrogen atom;

Sp is an aliphatic spacer;

An is an anchor group for attaching the sensor to a solid substrate; and

n = 1 or 2, and x is any integer; and

(b) replacing hydrogen atoms with B_{d1} and B_{d2} groups to form a modular fluorescence sensor, wherein B_{d1} and B_{d2} are independently selected binding groups capable of binding an analyte molecule to form a stable 1:1 complex.

(c) contacting the sensor with the sample whereby the sensor binds the analyte and generates a detectable analyte signal that is responsive to the analyte concentration in the sample;

(d) detecting the generated analyte signal; and

(e) determining the concentration of the analyte contained in the sample.

55. The method of claim 54, wherein Fl is selected from the group consisting of naphtyl, anthryl, pyrenyl, phenanthryl, and perylenyl.

56. The method of claim 54, wherein B_{d1} is R_1-$B(OH)_2$ and B_{d2} is R_2-$B(OH)_2$, wherein R_1 and R_2 are aliphatic or aromatic functional groups selected independently from each other, and B is a boron atom.

57. The method of claim 56, wherein R_1 and R_2 selected from the group consisting of: methyl, ethyl, propyl, butyl, phenyl, methoxy, ethoxy, butoxy, and phenoxy groups.

58. The method of claim 54, wherein the step of replacing of hydrogen atoms comprises adding orthobromomethyl phenylboronic acid.

59. The method of claim 54, wherein Sp is a straight-chain alkane.

60. The method of claim 54, wherein *An* comprises an organic functionality.